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| 10/799,961 | 03/12/2004 | Randy L. Hoffman | 82186844 | 1458 |
| 22879 7590 04/04/2012 HEWLETT-PACKARD COMPANY Intellectual Property Administration 3404 E. Harmony Road Mail Stop 35 FORT COLLINS, CO 80528 | | | | |
| EXAMINER | | | | |
| KRAIG, WILLIAM F | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2892 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary**Application No.**

10/799,961

Applicant(s)

HOFFMAN ET AL.

Examiner

WILLIAM F. KRAIG

Art Unit

2892

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2012.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1,2,6-18,20,37-44 and 48-56 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 1,2,6-17,37-44 and 48-56 is/are allowed.
- 7) ☒ Claim(s) 18 and 20 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 18 and 20, the Examiner notes that, due to the language of claim 6, the limitation (contained in claim 18) of "the means for controlling current flow includes one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide" is amenable to two or more plausible claim constructions as follows. As Applicant's have previously contended regarding similar limitations, the list of possible compounds in question can reasonably be viewed as closed-ended (i.e., the individual claimed compounds cannot contain additional elements). Further, as was noted in the BPAI decision dated 7/29/2011, the presence of claim 6 (which states "wherein the one or more compounds of the formula $A_xB_xO_x$ includes one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide" and "wherein the one or more compounds of the formula $A_xB_xO_x$ includes C_x to form a compound of the formula $A_xB_xC_xO_x$, wherein each "C" is selected from the group of Ga, In, Ge, Sn, Pb") provides evidence that the similar limitation presented in current claim 18 can also be reasonably viewed as open-ended (i.e., the claimed compounds can include additional elements). Therefore,

Applicant's amendment does not resolve the issue regarding two or more plausible claim interpretations with respect to claims 18 and 20.

Given the closed-ended nature of the other claims pending in the instant application, the Examiner believes that claim 18 is meant to be interpreted in a closed-ended fashion (i.e., the individual claimed compounds cannot contain additional elements), and will examine the claims as such.

Allowable Subject Matter

2. Claim 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
3. Claim 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
4. Claims 1, 2, 6-17, 37-44 and 48-56 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1, 2 and 48-50, the closest prior art (which has been made of record) fail to disclose (by themselves or in combination) the channel including one or more compounds of the formula $A_xB_xO_x$, wherein each of the one or more compounds consists of three elements with the formula $A_xB_xO_x$, wherein the one or more compounds includes one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, each O is atomic

oxygen, wherein the channel includes one of an amorphous form and a mixed-phase crystalline form in further combination with the additionally claimed features, as they are claimed by the Applicant. Thus, the Applicant's claims are determined to be novel and non-obvious.

Regarding claims 6-17, 38-41 and 51-56, the closest prior art (which has been made of record) fail to disclose (by themselves or in combination) the channel including one or more compounds of the formula $A_xB_xO_x$, wherein the one or more compounds of the formula $A_xB_xO_x$ includes one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, each O is atomic oxygen, wherein the channel includes one of an amorphous form and a mixed-phase crystalline form further wherein the one or more compounds of the formula $A_xB_xO_x$ includes C_x , to form a compound of the formula $A_xB_xC_xO_x$, wherein each C is selected from the group of Ga, In, Ge, Sn, Pb, and wherein each of A, B and C are different in further combination with the additionally claimed features, as are claimed by the Applicant. Thus, the Applicant's claims are determined to be novel and non-obvious.

Regarding claims 37 and 42-44, the closest prior art (which has been made of record) fail to disclose (by themselves or in combination) the precursor composition including one or more precursor compounds that each consist of three elements, wherein the one or more compounds are of the formula $A_xB_xO_x$, and include one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, wherein the channel includes one of an amorphous form and a mixed-phase crystalline form in further combination with the

additionally claimed features, as they are claimed by the Applicant. Thus, the Applicant's claims are determined to be novel and non-obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

5. Applicant's arguments filed on 1/26/2012 regarding the rejections under 35 U.S.C. 112, second paragraph, of claims 18 and 20 have been fully considered but they are not persuasive. Specifically, Applicant argues that because of the amendment to claim 18, the claim has been "amended to address the issues raised by the Examiner under 35 USC 112, second paragraph". The Examiner argues that claim 6 continues to provide evidence that there exist two or more plausible claim constructions for the claim language presented in claims 18 and 20, and thus maintains the rejections of claims 18 and 20.
6. Applicant's arguments filed on 1/26/2012 regarding the rejections under 35 U.S.C. 112, second paragraph, of claims 1, 2, 37, 42-44 and 48-50 have been fully considered and are persuasive. The previous rejections of these claims have thus been withdrawn.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM F. KRAIG whose telephone number is (571)272-8660. The examiner can normally be reached on Mon-Fri 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thao X. Le can be reached on 571-272-1708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WILLIAM F KRAIG/
03/26/2012
Primary Examiner, Art Unit 2892